DOCUMENT RESUME

ED 463 086 PS 030 233

TITLE	Child Nutrition: A Focus on Preschool. Guidance for Early Care and Education Programs.
INSTITUTION	Connecticut State Dept. of Education, Hartford.
PUB DATE	2001-07-00
NOTE	18p.
AVAILABLE FROM	State Dept of Education, Bureau of Early Childhood Education and Social Services, 25 Industrial Park Road, Middletown, CT 06457. Tel: 860-807-2051.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*Children; *Day Care; Developmentally Appropriate Practices; *Nutrition; *Preschool Education; State Standards
IDENTIFIERS	*Child Nutrition Programs; Meal Patterns; Nutrition Education Program; *Nutrition Services; Program Characteristics

ABSTRACT

Because the development of healthy eating and physical activity habits during early childhood can prevent disease and support a lifetime of good health, nutrition services are a critical component of early childhood programs. This publication provides guidance to preschool programs to help them meet the Connecticut state goal of practicing appropriate eating habits by the end of preschool. The report discusses how programs should provide children with opportunities to choose nutritious meals and snacks. The following components of quality nutrition services are discussed: (1) identifying nutrition needs; (2) serving nutritious foods; (3) modeling good eating practices; (4) creating a developmentally appropriate and safe environment; (5) accommodating special nutrition needs; (6) engaging parents in health nutrition practices; (7) providing nutrition education; and (8) providing staff training. The following strategies for effective nutrition education are then presented: (1) focus on age-appropriate outcomes; (2) provide hands-on sensory experiences; (3) integrate nutrition into existing curricula; (4) create a physical learning environment that promotes nutrition; and (5) promote physical activity. The report includes a nutrition questionnaire for parents to complete prior to meeting with child care staff members, Child and Adult Care Food Program meal patterns for ages 3 to 5 years, requirements for nutrition and food safety policies, and related educational, behavioral, and health outcomes for preschoolers and their families. (Contains 17 references.) (KB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 463 086

Child Nutrition: A Focus on Preschool. Guidance for Early Care and Education Programs.

Connecticut State Department of Education

RS 030233

July 2001

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY
Marsha J. Howland
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
2B

BEST COPY AVAILABLE

Child Nutrition

Child Nutrition: A Focus on Preschool
Guidance for Early Care and Education Programs

July 2001

Nutrition is a significant factor in the growth, development and overall functioning of a child. Good nutrition provides the energy and nutrients essential to sustain life and promote physical, social, emotional and cognitive development.

Contents

Introduction 1

Providing Quality Nutrition Services

Identify Nutrition Needs 2
Serve Nutritious Foods 2
Model Good Eating Practices 3
Create a Developmentally Appropriate and Safe Environment 4
Accommodate Special Nutrition Needs 4
Engage Parents in Healthy Nutrition Practices 5
Provide Nutrition Education 6
Provide Staff Training 7

Strategies for Effective Nutrition Education

Focus on Age-Appropriate Outcomes 7
Provide Hands-On Sensory Experiences 9
Integrate Nutrition into Existing Curriculums 10
Create a Physical Learning Environment that Promotes Nutrition 10
Promote Physical Activity 11

Conclusion 12
References 12

Nutrition Questionnaire for Children Q-1
Interpreting the Questionnaire Q-3

PS 030233

Introduction

The development of healthy eating and physical activity habits can prevent disease and support a lifetime of good health. Many chronic diseases affecting Americans are diet related, with modifiable risk factors (such as obesity, high blood pressure and physical inactivity) which are established in childhood. Prevention is easier than treatment — it is far simpler to help young children learn healthy eating and physical activity habits than to change unhealthy habits later on.

Good nutrition is critical to optimizing each child's potential for success. Meeting nutritional requirements throughout childhood is essential to full intellectual development. Research documents that undernutrition impacts children's behavior, performance and overall cognitive development. Children require sufficient energy and essential nutrients each day to concentrate on and accomplish learning tasks. Even mild undernutrition and short-term hunger are barriers to learning.

Nutrition services are a critical component of early childhood programs, because nutrition influences how well children grow, develop and learn. Nutrition services include (1) identification of children's nutrition needs; (2) the provision of nutritious and safe meals and snacks; and (3) nutrition education for children, parents and staff.

Preschool programs should meet children's nutrition and nutrition education needs in a safe, sanitary and supportive environment that promotes healthy growth and development. Meals and snacks served should meet children's nutrition needs, provide models of healthy eating patterns, and help children establish good eating habits at an early age.

Providing Quality Nutrition Services

One of the program goals identified in *The Connecticut Framework: Preschool Curricular Goals and Benchmarks* (1999) is that children will practice appropriate eating habits by the end of preschool. To accomplish this goal, preschool programs should provide children with opportunities to choose nutritious meals and snacks. Educational experiences should ensure that preschool children will recognize and eat a variety of nutritious foods. Programs should:

✧ Identify Nutrition Needs

Children vary greatly in their growth, development and nutrition-related issues. To meet preschoolers' nutrition needs, early childhood programs should learn about their children's typical eating behaviors and dietary patterns. This information is needed for planning menus, developing nutrition education activities, developing strategies to handle food allergies, and referring nutrition-related problems to the appropriate health professionals for assessment and treatment.

Early childhood programs can identify children's nutrition needs by a variety of methods. Useful information can be obtained by talking to parents, observing children and conducting nutrition screenings. (See sample questionnaire to help identify preschoolers' eating behaviors and food preferences.)

Discussions with parents and staff observations are the most commonly used methods of identifying nutrition needs, and can provide valuable information regarding a child's eating habits and nutrition concerns. However, many children with nutritional concerns will not be identified unless a standardized nutrition screening tool is used. Nutrition screening tools are designed to evaluate a child for medical conditions, drug and nutrient interactions, food allergies and intolerances, feeding concerns, variety of diet, and growth. The purpose of a nutrition screening is to identify children who may benefit from nutrition assessment and intervention. Program staff members can easily conduct a nutrition screening with the parent as part of the enrollment process. If the nutrition screening identifies specific nutrition issues or concerns, it is important to refer children to the appropriate health professionals for assessment and treatment.

✧ Serve Nutritious Foods

Programs providing meals for preschoolers should ensure that meals are nutritionally adequate and, for children 2 years and older, consistent with the Dietary Guidelines for Americans. At a minimum, all meals and snacks should meet the requirements of the U.S. Department of Agriculture's Child and Adult Care Food Program (CACFP), whether they are prepared on site, vended or brought from home.

CACFP meal patterns are designed to meet children's nutrition requirements by providing specific quantities of foods from four components – milk, vegetables/fruits, grains/breads and meat/meat alternates. Breakfast must include a serving of milk, vegetables/fruits and grains/breads. Lunch and supper must include a serving of milk, meat/meat alternates, grains/breads and two servings of vegetables/fruits. Snack menus must include two of the four components.

Menus should also reflect a variety of cultural and personal food practices and preferences. Serving foods from different cultures supports family nutrition efforts, broadens children's food experiences, and helps teach children about new foods.

CACFP Meal Pattern for Ages 3-5[1]	Breakfast	Lunch or Supper	Snack (Choose 2 of 4)
Milk, fluid	¾ cup	¾ cup	½ cup
Vegetables and Fruits (including 100% juice)	½ cup	½ cup[2]	½ cup[3]
Grains/Breads (whole-grain or enriched)[4]			
Bread or	½ slice	½ slice	½ slice
Cornbread, biscuits, rolls, muffins, etc. or	½ serving	½ serving	½ serving
Cold dry cereal or	⅓ cup	⅓ cup	⅓ cup
Cooked pasta or noodle products or	¼ cup	¼ cup	¼ cup
Cooked cereal or cereal grains	¼ cup	¼ cup	¼ cup
Meat and Meat Alternates	Optional		
Cooked lean meat, poultry or fish[5] or		1½ oz.	½ oz.
Alternate protein products[6] or cheese or		1½ oz.	½ oz.
Eggs, large or		¾	½
Cooked dry beans or peas or		⅜ cup	⅛ cup
Peanut butter or other nut or seed butters or		3 Tbsp.	1 Tbsp.
Peanuts or soynuts or tree nuts or seeds or		¾ oz.[7]	½ oz.
Yogurt		¾ cup	¼ cup

[1] Children may be served larger portions, but not less than the minimum quantities specified.
[2] Serve two or more kinds of vegetable(s) and/or fruit(s). Full-strength vegetable or fruit juice may be counted to meet not more than one-half of this requirement.
[3] Juice may not be served when milk is the only other snack component.
[4] All products must meet the minimum serving sizes specified in "Serving Sizes for Grains/Breads in the CACFP." Contact the State Department of Education, Office of Child Nutrition, for more information.
[5] Edible portion as served.
[6] Must meet specific requirements. Contact the State Department of Education, Office of Child Nutrition, for more information.
[7] At lunch or supper, no more than 50 percent of the requirement may be met with nuts or seeds. Another ¾ ounce of meat/meat alternate must be provided.

✧ Model Good Eating Practices

Foods served should contribute positively to children's nutrition and learning. Meals and snacks provide opportunities for hands-on practice of food and nutrition concepts learned in the classroom, and make a statement about what is appropriate to eat. Foods served for meals and snacks, at parties and holidays, and foods allowed from home, all provide nutrition messages. These choices can either broaden or limit children's awareness about foods and healthy eating.

Programs can encourage good eating practices by developing model nutrition policies, which are shared with all parents. Nutrition policies can address the program's approach to feeding children, provide information on the types of food served for meals and snacks, and identify procedures for handling special dietary needs. When meals or snacks are provided from home, the policy should include guidelines for parents (based on the CACFP meal patterns) regarding types and amounts of foods.

The policy should also address nutrition and food safety issues for food brought in from home, including:

- ✧ clearly labeling all foods with the child's name, date and type of food;
- ✧ storing foods at an appropriate temperature until eaten;
- ✧ sharing of foods (foods brought from home for one child should not be shared with other children);
- ✧ food restrictions for food safety reasons, e.g., whether homemade food is allowed for parties and holidays or if only store-bought food is allowed; and
- ✧ food restrictions for nutrition reasons, e.g., if foods of poor nutritional value (such as soda, iced tea, fruit drinks, candy) are not allowed.

Programs can encourage children to make healthy choices by providing a variety of nutritious foods with plenty of fruits, vegetables and grain products, while limiting excessive fat, sodium and sugars. With limited appetites and high nutrient needs, young children need lots of healthy food choices. When less nutritious foods are provided regularly, children fill up without getting all the nutrients needed for growth and development.

To help ensure that children's nutrient needs are met, programs should:

- ✧ restrict foods of minimal nutritional value, such as candy and soft drinks; *
- ✧ limit foods high in sugar, such as highly presweetened cereals; *
- ✧ limit foods high in fat, saturated fat and sodium, such as cakes, cookies, doughnuts, chips, processed foods; *
- ✧ increase frequency of foods high in fiber, such as vegetables, fruits and whole-grain products; and
- ✧ serve 100 percent juices instead of fruit drinks, punches and lemonade; *

* *Note: Programs participating in the CACFP must meet all applicable meal pattern requirements.*

Good eating practices are also encouraged when adults model healthy eating behaviors. Mealtimes provide opportunities to help children develop positive attitudes about healthy foods and to learn appropriate eating patterns, mealtime behavior and communication skills. Children learn more from actions than words. Adults need to be mindful of modeling appropriate behaviors, such as enjoying a variety of foods, being willing to taste new foods, and avoiding inappropriate comments about disliked foods. Adults should not eat or drink anything that children are not allowed to have, e.g., soda or coffee. These foods should be consumed on break, out of children's sight.

✧ Create a Developmentally Appropriate and Safe Environment

The eating environment greatly influences children's abilities to eat and learn. Mealtimes should be relaxed and pleasant. Adults should eat with the children when possible. Eating family style provides a pleasant and social environment at mealtime, and promotes learning by modeling behavior and providing educational activities centered on foods. Children should be allowed to make their own food choices based on individual appetites and preferences. Children should never be forced to eat foods they do not like, and food should never be used as a punishment or reward.

Dining areas should be clean, cheerful and supportive of healthful eating habits. Appropriate equipment and utensils foster independence by allowing children to serve themselves. Furniture and eating utensils should be age-appropriate and developmentally suitable. Chairs and tables should be comfortable, attractive and suitable in size and shape for children. Plates, utensils, pitchers and cups should be child-size and easy to hold.

Food purchasing, preparation, service and storage must follow all applicable standards for food safety and sanitation. Staff members who handle food must be trained to use proper hand-washing techniques, which include lathering with soap and warm water for at least 20 seconds before rinsing. All food contact surfaces, equipment and utensils must be cleaned with soap and hot water, and sanitized with a bleach solution (½ tablespoon germicidal or institutional bleach per gallon of water, or as indicated by product label). Foods that are high risk for choking should not be served to children under the age of 4, including hard candy, popcorn, whole grapes, raisins, dried fruit, hot dogs (whole or sliced into rounds), nuts and seeds, raw carrots (in rounds), fish with bones, and large spoonfuls of peanut butter.

✧ Accommodate Special Nutrition Needs

Menus should be carefully planned and adapted as necessary to meet the nutritional and feeding requirements of children with special dietary needs, such as lactose intolerance, food allergies, diabetes, developmental disabilities and other conditions. Program staff members and parents should work together to incorporate special dietary needs into the regular menu, with written direction from appropriate health professionals. Examples of appropriate accommodations include modifying food types, amounts and consistency, and supplying special dishes, utensils

Nutrition Questionnaire for Children

(Adapted from Bright Futures in Practice: Nutrition, Appendix B, pgs. 232-236, National Center for Education in Maternal and Child Health, 2000)

This nutrition questionnaire is a tool for parents to complete before meeting with child care staff members (e.g., health or education professionals, family day-care providers). The questionnaire provides a useful starting point for identifying areas of nutrition concern and the need for additional screening. It may be adapted with the names of foods consumed by a specific cultural group. *Note: This questionaire is not all-inclusive, and should be adapted as necessary to meet the specific needs of individual programs.*

1. How would you describe your child's appetite? *(Check one.)*
   ☐ Good ☐ Fair ☐ Poor ☐ Picky

2. How many days per week does your family usually eat meals together?_____

3. How would you describe mealtimes with your child? *(Check one.)*
   ☐ Always pleasant ☐ Usually pleasant ☐ Sometimes pleasant ☐ Never pleasant

4. How many meals does your child usually eat per day?_____

5. How many snacks does your child usually eat per day?_____

6. Which of these foods did your child eat or drink last week? *(Check all that apply.)*

Grains

- ☐ Bagels
- ☐ Bread
- ☐ Cereal/grits
- ☐ Crackers
- ☐ Muffins
- ☐ Noodles/pasta
- ☐ Rice
- ☐ Rolls
- ☐ Tortillas
- ☐ Other grains:

_____
_____
_____
_____

Vegetables

- ☐ Broccoli
- ☐ Carrots
- ☐ Corn
- ☐ French fries
- ☐ Green beans
- ☐ Green salad
- ☐ Greens (collard, spinach)
- ☐ Peas
- ☐ Potatoes
- ☐ Tomatoes
- ☐ Other vegetables:

_____
_____
_____

Fruits

- ☐ Apples/juice
- ☐ Bananas
- ☐ Berries
- ☐ Grapefruit/juice
- ☐ Grapes/juice
- ☐ Melon
- ☐ Oranges/juice
- ☐ Peaches
- ☐ Pears
- ☐ Other fruits/juice:

_____
_____
_____
_____

Nutrition Questionnaire for Children (continued)

6. Continued *(Check all that apply.)*

Milk and Other Dairy Products

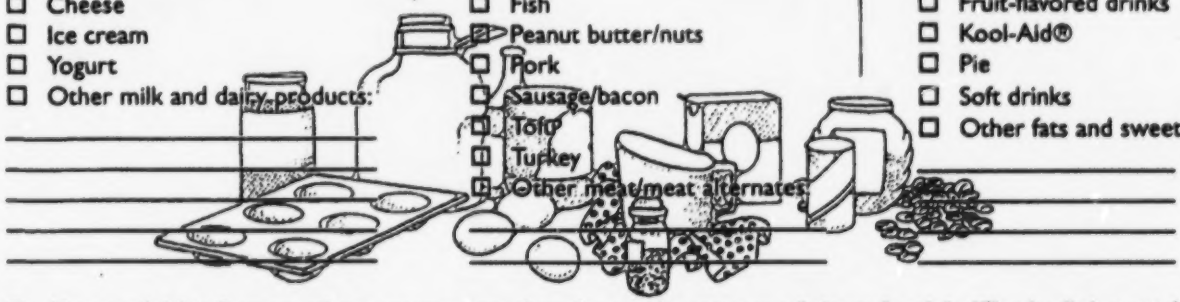
- ☐ Whole milk
- ☐ 2% milk (reduced-fat)
- ☐ 1% milk (low-fat)
- ☐ Skim milk (nonfat)
- ☐ Chocolate milk
- ☐ Cheese
- ☐ Ice cream
- ☐ Yogurt
- ☐ Other milk and dairy products: _____

Meat and Meat Alternates

- ☐ Beef/hamburger
- ☐ Chicken
- ☐ Cold cuts/lunchmeat
- ☐ Dried beans
- ☐ Eggs
- ☐ Fish
- ☐ Peanut butter/nuts
- ☐ Pork
- ☐ Sausage/bacon
- ☐ Tofu
- ☐ Turkey
- ☐ Other meat/meat alternates: _____

Fats and Sweets

- ☐ Cake/cupcakes
- ☐ Candy
- ☐ Chips
- ☐ Cookies
- ☐ Doughnuts
- ☐ Fruit-flavored drinks
- ☐ Kool-Aid®
- ☐ Pie
- ☐ Soft drinks
- ☐ Other fats and sweets: _____



7. If your child is 5 years of age or younger, does he or she eat any of these foods? *(Check all that apply.)*

- ☐ Hot dogs
- ☐ Marshmallows
- ☐ Nuts and seeds
- ☐ Peanut Butter
- ☐ Popcorn
- ☐ Pretzels and chips
- ☐ Raisins
- ☐ Raw celery or carrots
- ☐ Round or hard candy
- ☐ Whole grapes

8. How much 100 percent juice (for example, orange juice, apple juice and grape juice) does your child drink per day? _____

9. How much sweetened beverage (for example, Kool-Aid®, fruit punch and soft drinks) does your child drink per day? _____

10. Does your child drink water that is fluoridated or take a fluoride supplement?
☐ Yes ☐ No ☐ Don't Know

11. Does your child take a bottle to bed at night or carry a bottle or sippy cup around during the day?
☐ Yes ☐ No

12. Do you have a working stove, oven and refrigerator where you live? ☐ Yes ☐ No

13. Were there any days last month when your family didn't have enough food to eat or enough money to buy food? ☐ Yes ☐ No

14. Does your child spend more than 2 hours per day watching television and videotapes or playing computer games? ☐ Yes ☐ No

15. What concerns or questions do you have about feeding your child? _____

_____

_____

Interpreting the Questionnaire

When reviewing the responses to the questionnaire, use the interpretive notes to identify areas of concern and determine follow-up questions or actions. The notes are listed by their corresponding questions on the questionnaire.

1. Children grow more slowly from ages 1 to 5 than in infancy. Their appetites can change from day to day, depending on how fast they are growing and how active they are. As long as they are energetic and growing, they are probably getting enough of the nutrients they need. Young children often eat small portions. They should be offered small servings and be allowed to ask for more. Irregular eating and frequently missing meals can result in a low intake of calories (energy) and nutrients. Busy schedules and inadequate resources for obtaining food may cause a child to miss meals.

2. Encourage parents/guardians to eat meals together as a family. If children see their parents/guardians and other adults enjoying meals together and eating a variety of foods, they will want to do the same. Explain that being a role model is the best teacher.

3. During mealtimes, a relaxed atmosphere should be maintained and children should not be rushed. Well-balanced meals and snacks should be offered in a pleasant environment. When children are stubborn about eating, it is often their way of learning to be independent. Fighting over food may make them even more stubborn. Encourage parents/guardians to get rid of distractions such as television during meals.

4-5. Meals and snacks for children need to be planned and offered at scheduled times throughout the day and should consist of a variety of healthy foods. A typical day might consist of 3 meals and at least 2 snacks. This can vary depending on the child (e.g., appetite, activity level, etc.) and the types and portion sizes of foods served. Generally, children need to eat every 3 to 4 hours, with at least 1½ to 2 hours between meals and snacks. Snacks may contribute about one-quarter of a child's caloric intake, so it is important to control what is offered. Children should not be pressured or rewarded to eat certain foods.

6. Children 2 to 3 years old need the variety and same number of servings as older children but may need small portions – about two-thirds of a serving. By the time children are 4 years old, they eat portions similar to those eaten by older family members: 1 slice of bread; 1 cup of raw vegetables; 1 medium-size piece of fruit; 1 cup of milk or yogurt; 2 to 3 ounces of cooked lean meat, poultry or fish.

Grains. Children need 6 to 11 servings per day. Grain products provide vitamins, minerals, complex carbohydrates and dietary fiber, which are important for good health.

Vegetables. Children need 3 to 5 servings per day. Vegetables provide vitamins, minerals and dietary fiber. Children need to eat dark-green leafy and deep-yellow vegetables more often.

Fruits. Children need 2 to 4 servings per day. Fruits provide vitamins, minerals and dietary fiber. Many juice beverages are not 100 percent juice. Parents need to check the ingredients to make sure that they purchase juice without added sugar (e.g., corn syrup) and canned fruit with little or no added sugar.

Milk and other dairy products. Children need 2 to 3 servings per day. Milk, yogurt, cheese and other dairy products supply calcium for building and maintaining strong bones and teeth and protecting bones from osteoporosis. Children 1 to 2 years old need whole milk. Older children can drink 2% (reduced fat), 1% (low-fat) or skim (nonfat) milk.

Meat and meat alternatives. Children need 2 to 3 servings per day. Meat and meat alternatives include both animal and plant sources of protein, iron and other important nutrients. Two to 3 ounces of cooked lean meat, poultry or fish equal 1 serving from this group. One egg or one-half cup of cooked dry beans counts as 1 ounce of lean meat; 2 tablespoons of peanut butter count as 1 ounce of meat.

Note: These portion sizes may not correspond with those specified in the CACFP meal pattern. Programs participating in the CACFP must meet all applicable meal pattern requirements.

Fats and sweets. This group includes, butter, margarine, mayonnaise, vegetable oil, gravy, salad dressing, cake/cupcakes, pie, cookies, chips, doughnuts and candy. There is no recommended serving because consumption of fats and sweets should be limited. If allowed to consume sweets in unlimited amounts, children are likely to fill up on these rather than eat healthy foods.

7. Young children, 2- to 3-year-olds especially, are at risk for choking on food and remain at risk until they can chew and swallow better at about age 4.

Precautions to prevent choking include:

- ✧ Staying with children while they are eating.
- ✧ Having children sit while eating because eating while walking or running can cause choking.
- ✧ Keeping things calm at eating time because becoming overexcited while eating can cause choking.
- ✧ For children under age 2, foods that may cause choking need to be avoided (e.g., hard candy, mini-marshmallows, popcorn, pretzels, chips, spoonfuls of peanut butter, nuts, seeds, large chunks of meat, hot dogs (whole or sliced into rounds), raw carrots (in rounds), raisins and other dried fruits, whole grapes).

For children between ages 2 and 5, foods that may cause choking can be modified to make them safer (e.g., by cutting hot dogs in quarters lengthwise and then into small pieces, cutting whole grapes in half lengthwise, chopping nuts finely, chopping raw carrots finely or into thin strips, spreading peanut butter thinly on crackers or bread).

8-9. Juice (100 percent, e.g., orange, apple, grape) should be offered in small amounts because too much juice may reduce a child's appetite for meals. A reasonable amount of juice for preschoolers is 4 to 6 ounces per day. Parents should limit sugary drinks such as Kool-Aid®, fruit punch, soft drinks and artificially sweetened beverages. Some of these beverages are fortifed with vitamin C, but most provide calories and no nutrients.

10. Children need fluoride supplementation if the water is severely deficient in fluoride. To assess fluoride levels, ask about all sources of water used by the family, including municipal, well, commercially bottled and home system-processed water. Refer a child who isn't getting enough fluoride to a physician or dentist for follow-up.

11. Children permitted to suck on a bottle or sippy cup of any fluid that contains carbohydrates, including juice and milk, for prolonged periods are at risk for developing early childhood caries (baby bottle tooth decay). Children should not be put to bed at night or naptime with a bottle or allowed unlimited access to a bottle or sippy cup (i.e., permitting the child to carry a bottle or sippy cup around whenever wanted).

12-13. If inadequate cooking or food-storage facilities adversely affect a family's nutrient intake, refer the family to social services. If a family does not have adequate resources to obtain food, refer them to food assistance and nutrition programs such as WIC and the Food Stamp Program, or to a community food shelf or pantry.

14. Children who spend too much time watching television and videotapes or playing computer games are likely to have a sedentary lifestyle, which leads to overweight. These sedentary activities should be limited to 1 to 2 hours per day.

15. Respond to parents' questions and concerns. For more nutrition information and resources, contact:

Connecticut State Department of Education
Office of Child Nutrition
(860) 807-2075

Connecticut State Department of Public Health
Child Day Care Licensing
(860) 509-8045
(800) 282-6063

University of Connecticut
Cooperative Extension System
(860) 486-3635

or equipment. Programs should also have clearly defined procedures to train the staff in handling special dietary needs, and to clearly communicate all special dietary concerns to staff members.

Programs must ensure that children with special needs are integrated as fully as possible in all mealtime activities, e.g., sitting with other children and (if appropriate) eating the same meals. Children with special needs may face additional nutrition challenges because of complicating factors related to physical disabilities, mental disabilities or related medical or genetic conditions. While they have the same nutrient needs as any other child, sometimes a special condition might impose certain increased or decreased requirements. For example, a child with cerebral palsy may need additional calories for adequate growth and functioning.

Nutrition is especially important when children with special needs exhibit other health problems, such as malnutrition, delayed growth and development, anemia or underweight. Meals for most preschoolers with special needs will follow the CACFP guidelines. Based on individual needs, the child's health team (including physician and dietitian) can determine appropriate amounts of foods or special dietary or feeding plans. Menus can be adapted as necessary to meet specific nutritional and feeding requirements.

Accommodations associated with diets or feeding of children with special education needs should be indicated in the child's Individualized Education Program (IEP), or if the child is under age 3, in the Individualized Family Service Plan (IFSP). Dietary accomodations for children with special education needs should be discussed with the local school system's Planning and Placement Team (PPT).

✧ Engage Parents in Healthy Nutrition Practices

Children's eating habits are strongly influenced by parental interactions and encouragement. Preschool programs can improve the success of nutrition services by actively engaging parents and providing appropriate education, resources, and support. Programs should help families meet the following outcomes:

Outcomes for Families of Preschoolers

Educational/Attitudinal	Behavioral	Health
✧ Understands that each child's growth and development are unique. ✧ Has a positive attitude towards food. ✧ Understands the nutrition needs of the growing child and the importance of scheduling healthy meals and snacks. ✧ Encourages the child to try a variety of healthy foods. ✧ Understands the importance of modifying foods for the child to make them easier and safer to eat. ✧ Understands the importance of a healthy lifestyle, including eating healthy foods and participating in regular physical activity.	✧ Understands that parents are responsible for what, when and where the child eats, and that the child is responsible for whether to eat and how much. ✧ Serves developmentally appropriate foods. ✧ Serves scheduled healthy meals and snacks. ✧ Offers a variety of foods. ✧ Eats meals together regularly to ensure optimal nutrition and to facilitate family communication. ✧ Provides positive role models by eating healthy foods and participating in regular physical activity. ✧ Uses nutrition programs and food resources if needed. ✧ Provides safe opportunities for active play.	✧ Maintains good health.

Source: *Bright Futures in Practice: Nutrition*, p. 75. The National Center for Education in Maternal and Child Health, 2000.

Programs can encourage parental involvement in preschool nutrition by:

- ✧ displaying or distributing menus of all meals and snacks;
- ✧ providing information on the food program, e.g., approaches to feeding children, nutrition policies;
- ✧ inviting parents to eat lunch with the children;
- ✧ discussing children's food likes, dislikes, cultural preferences, food allergies and diet-related problems as part of the enrollment process;
- ✧ discussing children's eating behaviors at preschool and home;
- ✧ sharing information on what children eat during the day;
- ✧ providing basic nutrition information in the preschool environment (e.g., posters, bulletin boards, artwork) and to take home (e.g., handouts, brochures, articles, newsletters, nutrition activities);
- ✧ providing ideas and recipes for nutritious foods when meals, snacks or holiday/party foods are brought from home;
- ✧ asking parents to share special food traditions and family recipes that can be used to conduct a tasting party or cooking activity;
- ✧ setting up a nutrition resource center with information that parents can borrow;
- ✧ inviting parents to participate in menu planning and nutrition education; and
- ✧ helping families to understand general child health, nutrition, hygiene and safety.

✧ Provide Nutrition Education

Programs that serve young children have the opportunity to promote lifelong habits for good health. The Centers for Disease Control and Prevention (1996) indicate that education strategies are most likely to accomplish this goal if they help children learn the skills needed for healthy eating behaviors, provide opportunities to practice these behaviors and make nutrition fun.

Providing young children with positive food experiences can help them to develop an awareness of good nutrition and to develop healthy eating habits for a lifetime.

Helping children to make healthy food choices can promote:

- ✧ consumption of a balanced diet;
- ✧ achievement of optimal growth and intellectual development;
- ✧ increased physical performance;
- ✧ maintenance of healthy weight; and
- ✧ decreased risk of nutrition-related diseases.

Developing a plan for nutrition education is key to success. The nutrition plan should include opportunities for children to develop the knowledge and skills necessary to make appropriate food choices. The National Center for Education in Maternal and Child Health (1997) indicates that preschool programs can help children learn about food and its importance to health by planning to:

- ✧ introduce children to food and eating experiences;
- ✧ provide learning activities about food and health – activities that can be related to experiences the child has at home; and
- ✧ encourage children to tell their parents about their food experiences in child care.

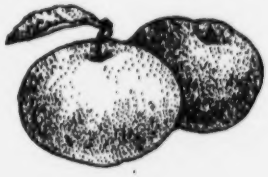
The plan should be the shared responsibility of all staff members, including directors and food service personnel.

Adapted from: *Making Food Healthy & Safe for Children: How to Meet the National Health and Safety Performance Standards – Guidelines for Out-of-Home Child Care Programs*, p. 49. National Center for Education in Maternal and Child Health, 1997.

✧ Provide Staff Training

For nutrition services to be successful, child-care staff members must receive appropriate nutrition and foodservice training. Caregivers should know the basic principles of child nutrition, strategies for creating a positive environment that promotes the development of good eating habits, and the importance of modeling healthful behaviors. Staff members who handle food should have appropriate training in planning, preparing and serving nutritious, safe and appealing meals and snacks that meet the required CACFP meal pattern components and serving sizes. Licensed child-care centers and group day-care homes serving meals are required to have a registered dietitian consultant available for guidance regarding nutrition and food service.

Strategies for Effective Nutrition Education



✧ Focus on Age-Appropriate Outcomes

Nutrition education programs should focus on helping children to understand the relationship between personal behavior and health, while providing the knowledge and skills needed to demonstrate healthy eating behaviors. Activities should be designed to encourage developmentally appropriate food experiences that help children learn about new and culturally diverse foods and healthy eating.

Nutrition education for young children should:

- ✧ teach children the relationship between food and health;
- ✧ help children understand their growing bodies and how to take care of themselves through positive health behaviors;
- ✧ expose children to a variety of learning experiences about where food comes from and how it can be prepared; and
- ✧ help children develop sound attitudes and knowledge about food, nutrition and health.

Basic nutrition concepts for preschoolers include "food keeps me healthy," "food gives me energy" and "food helps me grow." Nutrition activities should be based on these concepts, while providing concrete experiences such as increasing exposure to many healthy foods and building skills in choosing healthy foods. Preschoolers can easily begin to understand basic nutrition and health concepts, yet the overall goal of any nutrition education activity is behavioral change. For example, children may *know* that fruits and vegetables make them healthy, but they need to *eat* fruits and vegetables for health benefits to be obtained.

Preschool nutrition education activities should be designed to achieve the following outcomes for children:

Outcomes for the Preschool Child

Educational/Attitudinal

- ✧ Tries new foods.
- ✧ Enjoys a variety of healthy foods.
- ✧ Enjoys active play.

Behavioral

- ✧ Gradually increases variety of foods eaten.
- ✧ Eats healthy foods.
- ✧ Participates in active play.

Health

- ✧ Improves motor skills, coordination and muscle tone.
- ✧ Grows and develops at an appropriate rate.
- ✧ Maintains good health.

Source: *Bright Futures in Practice: Nutrition*, p. 75. The National Center for Education in Maternal and Child Health, 2000.

Preschool programs can help children learn about food and eating by focusing on:

Properties of Foods

Teach children about the taste, smell, textures, colors and shapes of foods during mealtime and curricular activities, without interfering with the pleasure of eating.

Food Choices

Help children learn about the food choices they should make every day using the guidelines of the Food Guide Pyramid for Young Children. Look for simple ways to teach so children will understand. For example, use the concept of "everyday foods" (e.g., fruits, vegetable, grains, milk, etc.) and "sometimes foods" (e.g., cake, candy, cookies, etc.), instead of "good" or "bad" foods. Use hands-on activities and props children can touch. Use real food as much as possible.

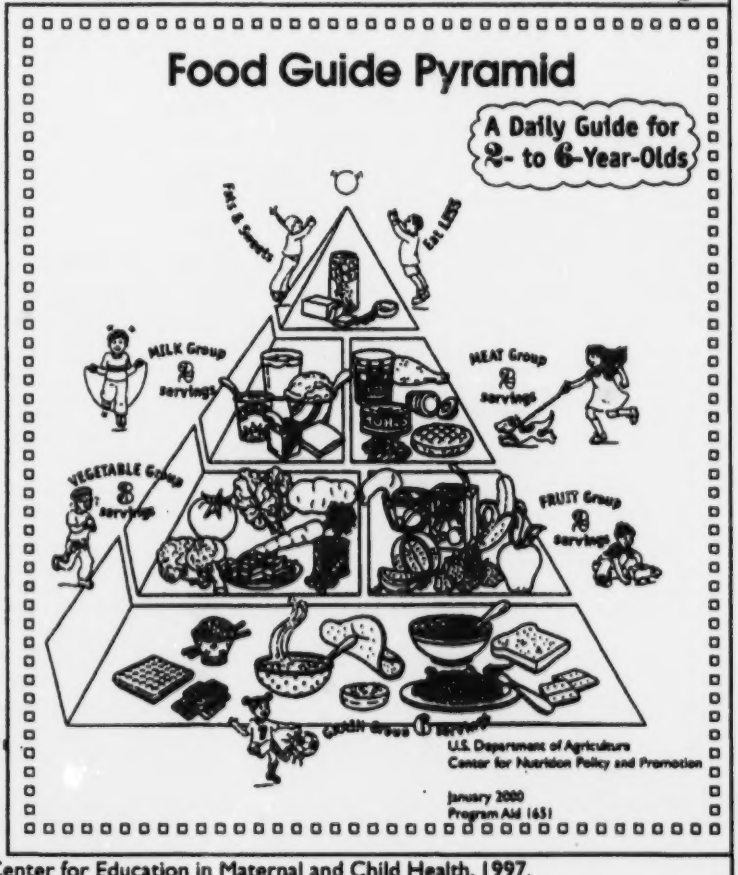
New Foods

Help children learn to eat new foods. Remember that young children learn by imitating adults. Eat with the children and eat the same foods they are eating. If children see adults eating and enjoying a food that is new to them, they will be more likely to try it. If the food is rejected, do not make an issue of it. Simply serve it again later. The more familiar children become with the food, the more easily they will accept it.

Preparing Foods

Children can learn a lot about food by helping to prepare it. Children are much more likely to taste or try something new if they have been involved in the preparation process. Helping prepare foods can also teach other skills like counting, measuring, sorting and following directions. By preparing food, children gain:

- ✧ experience with sharing as they take turns;
- ✧ creativity – changing flour and other ingredients into raw dough, then a cookie or muffin that can be decorated;
- ✧ self-esteem – a sense of accomplishment when a project is completed and there is something to show for it;
- ✧ fine and gross motor skills – rolling bread dough, mashing fruit, scrubbing, tearing, breaking and snapping vegetables, etc.;
- ✧ knowledge about safety – injury prevention and sanitation;
- ✧ knowledge about parts of plants – stems, skins, seeds, etc.;
- ✧ knowledge about science – how plants, animals and people grow;
- ✧ knowledge about math – counting, measuring, etc.; and
- ✧ knowledge about language and literacy – describing characteristics of fruits and vegetables, reading stories about food, etc.



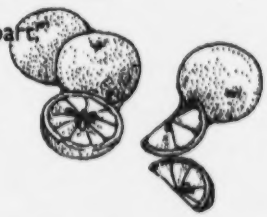
Adapted from: *Making Food Healthy & Safe for Children: How to Meet the National Health and Safety Performance Standards – Guidelines for Out-of-Home Child Care Programs*, pgs. 49-52. National Center for Education in Maternal and Child Health, 1997.

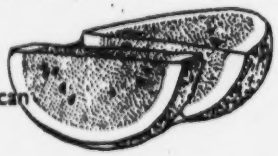
✧ Provide Hands-on Sensory Experiences

Young children learn best through hands-on sensory experiences. Concepts relating to food and nutrition should be taught through the use of developmentally appropriate activities that expose children through sensory experiences – tasting, smelling, feeling, seeing and hearing. Appropriate activities might include exploring different foods, identifying foods by smell, sound and feel, tasting parties, sprouting seeds, growing vegetables and visiting a farm.

The American Dietetic Association (1999) provides the following ideas for developmentally appropriate nutrition education activities which teach children food safety and good nutrition:

- ✧ "cup cooking" or "Baggie cooking," e.g., children make their own snacks of apple salad in a cup or vegetable salad in a bag;
- ✧ learning about size, smell, shape, color and growth as children "explore a potato;"
- ✧ visits to the local grocery store to see the produce or to a farm to see the animals and crops;
- ✧ visits to other stores, such as a fish farm or fish market, a bakery or a cheese factory;
- ✧ section fruits, count the parts and discuss the concepts of "whole" and "part;"
- ✧ learn about size by lining up fruits from smallest to largest;
- ✧ make geometric shapes out of frozen dough and bake for snack time;
- ✧ identify the parts of a melon (i.e., skin, rind, meat and seeds); and
- ✧ present lessons on "I can make my own breakfast," "I can name foods" or "Microwave magic" (i.e., how to microwave safely).





Source: ADA Position: Nutrition Standards for Child-Care Programs, Journal of the American Dietetic Association 1999;99:981-988.

Helping Children Learn About Food Using Their Five Senses

- ✧ Have a tasting party. Let children cook foods to taste based on the shape or color of the food.
- ✧ Help children compare the taste of raw and cooked fruits and vegetables.
- ✧ Have children break, snap tear or chew foods and listen to the sounds.
- ✧ Have children close their eyes and guess what made the sound – biting an apple, pouring milk, popcorn* popping.
- ✧ Have children reach into a "mystery bag" to feel foods of different sizes, shapes and textures. Have them describe what they feel and identify the food.
- ✧ Ask children to identify foods by their smell. Some foods that may be easy to identify include onions, garlic or citrus fruits such as oranges or lemons.

**Note: Popcorn is a choking hazard for young children and does not meet CACFP meal pattern requirements.*

Source: *Making Food Healthy & Safe for Children: How to Meet the National Health and Safety Performance Standards – Guidelines for Out-of-Home Child Care Programs*, p. 50. National Center for Education in Maternal and Child Health, 1997.

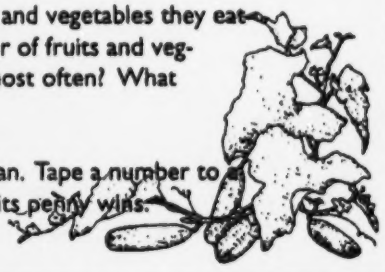
✧ Integrate Nutrition into Existing Curriculums

When nutrition is integrated into the preschool curriculum, children have daily exposure to nutrition concepts and messages. An integrated approach to nutrition education is more effective than teaching nutrition as a discrete unit, since it is ongoing and continually reinforces what children are learning. Nutrition concepts are easily integrated into a variety of subject areas, such as language and literacy development, mathematics, science and music. For example, consider how the nutrition concept "Eat five servings of fruits and vegetables a day for good health" can easily be integrated into the following subject areas:

Language and Literacy Development — Read books with fruit and vegetable themes, such as *Eating the Alphabet: Fruits and Vegetables from A to Z* or *Oliver's Vegetables*. Discuss the colors, shapes, textures and tastes of the different types of fruits and vegetables featured in these books.

Music — Sing songs that involve fruits and vegetables, such as "I like to Eat Apples and Bananas" or make up your own words to familiar children's tunes. Songs can be sung during any activity, such as cooking with the children, working on arts and crafts projects, or washing hands before meals.

Mathematics — Have children track the number of servings of fruits and vegetables they eat for two days by placing stickers on a classroom chart. Count the number of fruits and vegetables and have children determine the following: What fruit is eaten most often? What vegetable is eaten most often?



Science — Conduct a Bean Olympics. Plant bean seeds in a shallow pan. Tape a number to a penny and place over each seed. The first bean to sprout and turn over its penny wins.

✧ Create a Physical Learning Environment that Promotes Nutrition

When planning nutrition education programs, it is important to consider all of the ways in which young children can learn about food and nutrition. Consider the nutrition messages that are being imparted by pictures, books, puzzles, food containers in play areas, videos and games in the classroom. What do they tell children about the value of certain foods or eating practices? Do they adequately depict healthful foods such as fruits, vegetables and whole grains? Nutrition concepts in the environment should reflect positive messages. For example, a kitchen play area should include toy foods from all of the food groups in the Food Guide Pyramid, not just fast foods and cookie boxes.

Consider opportunities for exposure to multicultural foods. Children's food experiences are broadened by activities that integrate diversity into the classroom, e.g., including ethnic foods and cooking utensils (wok, rice bowls, etc.) in the kitchen play area, sampling ethnic foods, and reading stories about multicultural foods.

✧ Promote Physical Activity

Physical activity complements good nutrition practices, is an important part of good health, and helps children to maintain healthy weights. Participating in healthy physical activity is one of the goals of *The Connecticut Framework: Preschool Curricular Goals and Benchmarks* (1999). To accomplish this goal, preschool programs should provide children with opportunities to engage in a wide variety of gross-motor activities that are child selected and teacher initiated.

Young children need at least 60 minutes of physical activity daily. Keep it fun and safe by providing age-appropriate equipment and activities. Programs should:

- ✧ provide daily outdoor play or alternative activities during bad weather. Maximize opportunities for large motor muscle activity, e.g., jumping, dancing, marching, kicking, running, riding a tricycle or throwing a ball;
- ✧ encourage children to keep moving by including active games and play throughout the day, e.g., music, dance and make believe. Provide toys and equipment that encourage physical activity, e.g., balls, hula hoops, bubbles and cardboard boxes; and
- ✧ limit time spent watching television or videos to one hour or less a day.

Educational experiences should assure that preschool children will:

- ✧ demonstrate competence in a variety of activities that require coordinated movement using large muscles (e.g., climbing stairs and ladders, jumping, hopping, dancing, creative movement);
- ✧ perform activities that combine large-muscle movements with equipment, e.g., catching, throwing or kicking a ball, riding a tricycle, using a slide or swings, creative movement;
- ✧ combine a sequence of several motor skills in an organized way, e.g., doing an obstacle course, participating in a creative movement activity, using music with movement; and
- ✧ choose to engage in physical activity that is child selected or teacher initiated.

Source: *The Connecticut Framework: Preschool Curricular Goals and Benchmarks*. Connecticut State Board of Education, 1999.

Conclusion

Good nutrition plays a significant role in optimizing each child's potential for success. Young children are at the ideal age to learn about healthy eating, and opportunities for nutrition education and physical activity abound in the early childhood classroom. By providing daily access to healthy and safe foods, a variety of nutrition education activities, and an environment that supports positive nutrition messages and active play, preschool programs can encourage young children to develop eating and physical activity habits for a lifetime of good health.

For additional copies of this publication, or further information about early childhood education in general, contact:

State Department of Education
Bureau of Early Childhood Education
and Social Services
25 Industrial Park Road
Middletown, CT 06457
(860) 807-2051

For information and resources on nutrition education for preschoolers or nutrition in general, contact:

State Department of Education
Office of Child Nutrition
25 Industrial Park Road
Middletown, CT 06457
(860) 807-2075

References

Berman, C.; and Fromer, J. *Teaching Children about Food: A Teaching and Activities Guide.* Palo Alto, CA: Bull Publishing Co., 1991.

Centers for Disease Control and Prevention. *Guidelines for School Health Programs to Promote Lifelong Healthy Eating.* Morbidity and Mortality Weekly Report, June 14, 1996, Vol. 45, No. RR-9.

Connecticut Department of Mental Retardation. Service Guideline 6: *Nutrition – Intervention Guidance for Service Providers and Families.* Connecticut Department of Mental Retardation, Birth to Three System, 2000.

Connecticut State Board of Education. *The Connecticut Framework: Preschool Curricular Goals and Benchmarks.* Hartford, CT: Connecticut State Board of Education, 1999.

Cryer, D.; Ray, A.; and Harms, T. *Everyday Learning: Hands-on Nutrition Activities for Preschoolers.* Raleigh, NC: North Carolina Department of Public Instruction, 1994.

Ehlert, L. *Eating the Alphabet: Fruits & Vegetables from A to Z.* Orlando, FL: Harcourt, Brace & Co., 1989.

French, V. *Oliver's Vegetables.* New York, NY: Orchard Books, 1995.

Graves, D. E., Suitor, C.W., Holt K.A., eds., *Making Food Healthy & Safe for Children: How to Meet the National Health and Safety Performance Standards – Guidelines for Out-of-Home Child Care Programs.* National Center for Education in Maternal and Child Health, 1997.

Hall, M.A. *Take a Bite Out of Music, It's Yummy!* Westport, CT: New England Association for the Education of Young Children, 1983.

Iowa Department of Public Health. *The Prevention of Child and Adolescent Obesity in Iowa: A Position Paper.* Child and Adolescent Obesity Prevention Task Force, 2000.

Mayfield, B. *Teaching for a Lifetime: Nutrition Education for Young Children.* Delphi, IN: Noteworthy Creations, Inc., 1994.

Palmer, M.; and Edmonds, A. *Vegetable Magic: A Preschool and Kindergarten Nutrition Education Source Book,* Revised Edition. Storrs, CT: Connecticut State Department of Education, Nutrition Education and Training Program, 1993.

Position of the American Dietetic Association: Nutrition Standards for Child-Care Programs. *Journal of the American Dietetic Association;* 99:981-988.

Story, M.; Holt, K.; and Sofka, D., eds. *Bright Futures in Practice: Nutrition.* Arlington, VA: National Center for Education in Maternal and Child Health, 2000.

Tufts University. *Statement on the Link between Nutrition and Cognitive Development in Children.* Medford, MA: Center on Hunger, Poverty and Nutrition Policy, 1994.

US Department of Agriculture. *Food Pyramid for Young Children.* Washington, DC: Government Printing Office, 1999.

US Departments of Agriculture and Health and Human Services. *Nutrition and Your Health: Dietary Guidelines for Americans.* 5th ed. Washington, DC: Government Printing Office, 2000. Home and Garden Bulletin No. 232.